

Appendix 7-3

Probable Hydrologic Consequences Determination

Updated ~~January~~ February 2006



Based on available data and expected mining conditions, the proposed mining and reclamation activity is not expected to proximately result in contamination, diminution or interruption of an underground or surface source of water within the proposed permit or adjacent areas which is used for domestic, agricultural, industrial, wildlife or other legitimate purpose.

It should be noted that the determination of no known depletion of flow or quality is based on available data, which is primarily post-mining. UtahAmerican Energy Inc. will report actual water depletion values annually in the Annual Report.

Therefore, if a sampler were not on-site during the event, it is unlikely that any flow would be observed.

There are no specified water uses for the stream flows. No water rights exist on the surface streams, due to the overall general lack of flow for these drainages. There are two water rights for isolated stock ponds, 91-4648 for Dryden Reservoir located in the SE/4, SW/4, Section 14, T16S, R14E and 91-4649 for Sams Pond located in the NW/4, NE/4, Section 23, T16S, R14E. Both of the water rights are owned by the BLM. No records have been found that these ponds were constructed. Field inspection shows that there are no ponds in the area specified by the water right location. The area for water right 91-4648 is shown in a photograph presented in Attachment 1 of Appendix 7-7 (Photo 93 - Page 28). As can be seen, there is on stock pond in this area. The area for water right 91-4649 is shown in photographs taken in the area indicated in the water right of the pond. No pond has been found. The only thing found in the area is an area of grass in the pinyon juniper.

TABLE 3-1

FEDERALLY LISTED ENDANGERED AND THREATENED ANIMAL SPECIES
~~WHICH MAY OCCUR IN THE LILA CANYON AREA~~

Mammals

Black-footed ferret (1)

(Mustela nigripes)Birds

Bald eagle (2)

(Haliaeetus leucocephalus)

*Southwestern willow flycatcher (2)

Mexican Spotted Owl (3)

(Strix occidentalis lucida)Fish (Do not occur, but theoretically could be impacted):

Colorado squawfish

(Ptychocheilus lucius)

Bonytail Chub

(Gila elegans)

Humpback Chub

(Gila cypha)

Razorback Sucker

(Xyrauchen texanus)

- (1) No confirmed sightings have occurred in Utah in recent years.
- (2) Nests in Utah.
- * No suitable nesting habitat within the permit area.
- (3) Nests in Utah. (See Appendix 3-4 for Mexican Spotted Owl Habitat Survey Plan)

(A complete list of all potential T&E species found in Emery County is included in Appendix 3.3)

3 = Substantial value habitat

4 = Seasonal - Limited

After June 2006

1= Crucial

2= Substantial

Table 3-2 Ranking of Wildlife Habitat (Prior to 2004)

<u>Species</u>	<u>Permit/lease Area</u>	<u>Management Area</u>
Rocky Mt. Big Horn (Seasonal)	800 Acres	5,411 Acres
Elk (Winter habitat)	8,960 Acres	19,840 Acres
Elk (Summer habitat)	0 Acres	1,280 Acres
Mule Deer (Critical)	6,720 Acres	9,280 Acres
Mule Deer (Year Long)	960 Acres	16,000 Acres
Pronghorn Antelope (Year Long)	0 Acres	12,160 Acres

It is important to note that the actual disturbed area (approximately 42.6 acres) is not critical elk or deer winter range but is habitat for Rocky Mountain Big Horn Sheep.

According to DWR, Rocky Mountain Bighorn Sheep spend all year along the escarpments in the Lila Canyon area of the Book Cliffs. DWR and the Division visited the proposed disturbed area on June 11, 2002. Prior to the visit, the DWR representative was concerned that sheep may need to move further up the cliff when traveling the escarpments because of the mine and that sheep would likely leave the area. After the visit, the DWR representative felt that the sheep use of Lila Canyon may not be affected. The change in opinion may be due to the fact that the DWR representative was not familiar with the specifics of the mine plan until the site visit.

Rocky Mountain Big Horn Sheep appear to have

USFWS, UDWR and BLM (See page 19 for BLM mitigation information).

Although it was predicted that these nests might be abandoned, the Operator will coordinate closely with USFWS, DWR, and the Division to avoid "take" of golden eagles prior to construction and during operations. Immediately following any raptor survey that shows that the eagles are tending nests or nesting, the operator will contact the USFWS and DOGM. The agencies will immediately coordinate to determine appropriate measures.

Although the Operator will avoid "take", the operator agreed to the BLM-lead mitigation project that is based on the premise that there is sufficient nest sites in the area to accommodate the population base. The limiting factors appears to be available prey base. Mitigation is designed to enhance the prey base while concurrently enhancing habitat for big game, deer, elk, and bighorn sheep.

~~In addition, there are a number of aquatic Threatened and Endangered (T&E) species associated with the Colorado drainage systems. In the Lila Canyon Permit Area, there are no perennial streams, or ephemeral drainages which are in close enough proximity to perennial streams which could pose a potential threat to any aquatic species.~~

It is estimated that mining operations will use an average of approximately 81 acre feet of water annually. The USFWS considers that this volume of water will adversely affect the four endangered Colorado River fish. UEI will report actual water depletion values annually in their annual report.

The USFWS recovery program is reasonable and prudent alternative to avoid the likelihood of jeopardy to these fish.

322.230. All known species or habitats needing special

protection ~~under state or federal law~~ have been addressed.—

322.300. ~~Adequate c~~Copies of the ~~Mine Reclamation Plan~~MRP have been submitted to the Division to allow for distribution to ~~the Fish and Wildlife Service for their review~~USFWS.

323. Maps or aerial photographs of the permit area and adjacent areas have been provided. Plates 3-1 and 3-1A are maps that show all critical habitat, raptor nests and all special habitat features. These plates will be updated on an as needed bases to reflect current conditions such as new raptor nests and/or changes in wildlife use.

323.100. The location of the proposed reference area is shown on Figure 1 of Appendix 3-1. Appendix 3-1 is the report for the 2003 vegetation inventory. The reference area for the mine site disturbance ~~was established during the summer of 2003. The reference area was chosen in an area which represents the natural premining conditions of the permit area. The reference area will facilitate the determination of successful revegetation and the resultant final bond release for the Applicant.~~

323.200. Monitoring locations are shown on Plate 3-1 and can also be found ~~on the raptor inventory map in Appendix 3-5.~~

323.300. Protection facilities: There will be no facilities used exclusively for the ~~protection or enhancement of fish and wildlife.~~

323.400. Plate 3-2 Identifies each vegetative type and plant community. The sample locations used during the vegetation inventory can be found on Figure 1 of Appendix 3-1. ~~Wildlife use areas can be correlated to vegetation with the incorporation of the Wildlife Map, Plate 3-1.~~

Appendix 7-8 provides a description of each water monitoring location. In Summary monitoring locations L-6-G, L-7-G, and L-11-G have a habitat overstory of Douglas Fir-Mountain Brush association. Water monitoring location L-8-G has a habitat of predominantly pinyon - juniper and sagebrush grass associations. Water monitoring locations L-9-G, L-10-G, and L-12-G have some minor wet meadow habitat with an overstory of pinyon-juniper and sagebrush grass immediately adjacent along each side of the sites. Water monitoring sites L-16-G and L-17-G are both seeps and have a habitat of a mix of grasses and salt desert shrub with some invasive tamarisk.

Sites L-1-S, L-2-S, L-3-S, L-13-S, L-14-S and L-15-S are dry washes with a habitat consisting of sagebrush with an overstory of pinion-juniper.

Monitoring site L-4-S and L-5-G are for sediment pond discharge and for the mine discharge and have a habitat consisting of an overstory of pinion-juniper.

330. Operation Plan. A plan for protection of vegetation, fish and wildlife resources follows:

331. The Lila permit area is approximately 5,992.07~~4664.32~~ acres of which only 42.6 acres are within the surface disturbance area. All incidental disturbance, which will not be utilized in operations, will be revegetated with an interim seed mix proven beneficial to wildlife. The revegetation plan is addressed in Section 341 and the seed mixes are addressed in Tables 3-4 and 3-5. Revegetation will occur the first desirable period following disturbance and/or abandonment.

332. The extent and degree of subsidence will be in large dependent on both the amount of overburden as well as the mining method. Employees and or consultants of the operator have numerous years of experience mining the Bookcliffs and Wasatch areas and none have observed nor are aware of any negative impacts on wildlife or vegetation, as a result of subsidence, with the exception of

- 1) Escarpment Failure which is not anticipated.

lessen disturbance.

5. The Operator will ensure that DWR surveys for cliff nesting raptors within proposed facilities areas at least two years prior and one year following construction. The Operator will conduct annual raptor surveys.
6. An active golden eagle nest, with young, was documented during the 1999 spring raptor survey. The nest is located in the left fork of Lila Canyon within the 1-mile buffer zone. (See Plate 3-1). A consultation with USF&W, BLM, and UDWR was held in the fall of 1999. Line of site and potential mitigation was addressed during this meeting. The results of this consultation are addressed in Sec 322.220 and the Lila Canyon EA. This nest was not active in 2000, 2001, 2002, or 2003. A survey was not done in 2004. In 2005 nest 946 contained a possibly dead chick. (See Appendix 3-5 for updated inventories)
7. The Operator will adhere to exclusionary periods when initiating construction and final reclamation projects. The exclusionary periods include: raptors (Feb 1 - July 1), Bighorn sheep lambing (May 1 - June 15), and Pronghorn (May15 - June 20).

The Applicant does not plan to monitor any wildlife species during the life of the operation with the exception of raptors. Helicopter spring raptor surveys will be conducted at a minimum of a 1-mile radius around any new or potentially disruptive mining activity, 2-years prior and annually after the proposed activity. The Operator will contact the USFWS and the Division immediately following raptor fly-over surveys if raptors are observed tending nests or nesting.

The mine will emphasize their commitment to legal requirements of firearm and off-road vehicle-use by employees. This type of program has been adopted by the operator and will continue throughout the operation.

construction. The line separating the four areas will be staked on the ground. Ocular estimates of the success of the reclamation will be implemented each fall for 3 years following the reclamation. In year 4, if there appears to be an apparent difference in success, a quantitative sample will be taken. The sample will identify both species composition as well as overall vegetative cover for both areas.

If in the event a conclusion as to the timing of planting results in a significant degree of success, the reclamation plan can be modified during the 5 year renewal process.

355. Mulch will be applied on the same bases as indicated for permanent reclamation.

356. Standards for Success:

356.100 Success of revegetation will be judged on the effectiveness of the vegetation for the approved postmining land use, the extent of cover compared to the extent of cover of the reference area.

356.110. Standards for success, statistically valid sampling techniques for measuring success, and approved methods are identified in the Division's "Vegetation Information Guidelines, ~~were~~will be followed closely. (See "Lila Canyon Vegetation Inventory" found in Appendix 3-1)

356.120. Standards for success recommended in the "Vegetation Information Guidelines" ~~were~~will be followed closely. (See "Lila Canyon Vegetation Inventory" found in Appendix 3-1)

356.200. Standards for success will be applied in accordance with the approved postmining land use of wildlife and incidental use by domestic stock.

356.210. This Section does not apply since the area is post mining wildlife habitat, with incidental use

358.100. Appendix 3-3 is a letter from U.S. Fish and Wildlife Service identifying all threatened and endangered species that could occur in the permit area or within a one-half mile proximity. All mine personnel will be trained ~~to identify~~ about these species and ~~instructed to~~ notify the environmental coordinator at the mine. The environmental coordinator will confirm, if possible, the identification, notify USFWS and the Division, and then take what ever actions are necessary to safeguard both the species and it's habitat.

In addition, a threatened and endangered species inventory will be conducted prior to any disturbance. Historical as well as current threatened and endangered inventories are included in Appendix 3-4.

Prior to any new surface disturbance a raptor inventory will be conducted to ensure that no raptors or their nests or young would be adversely impacted through any mining or mine related activity. A copy of historical raptor data as well as current survey results are attached as Appendix 3-5.

A one-half mile buffer zone of no new disturbance during critical nesting periods will be maintained during that portion of the year that the nest sites are active.

358.200. No coal mining and reclamation operations will be conducted in a manner which would result in the unlawful taking of a bald or golden eagle, its nests, or any of the eggs.

358.300. This section is addressed in 358.200.

358.400. There are no wetlands and / or riparian areas within the area of potential disturbance.

358.500. Each operator will, to the extent possible using the best technology currently available:

358.510. All power and transmission lines will be designed with the best technology

Therefore, if a sampler were not on-site during the event, it is unlikely that any flow would be observed.

There are no specified water uses for the stream flows. No water rights exist on the surface streams, due to the overall general lack of flow for these drainages. There are two water rights for isolated stock ponds, 91-4648 for Dryden Reservoir located in the SE/4, SW/4, Section 14, T16S, R14E and 91-4649 for Sams Pond located in the NW/4, NE/4, Section 23, T16S, R14E. Both of the water rights are owned by the BLM. No records have been found that these ponds were constructed. Field inspection shows that there are no ponds in the area specified by the water right location. The area for water right 91-4648 is shown in a photograph presented in Attachment 1 of Appendix 7-7 (Photo 93 - Page 28). As can be seen, there is on stock pond in this area. The area for water right 91-4649 is shown in photographs taken in the area indicated in the water right of the pond. No pond has been found. The only thing found in the area is an area of grass in the pinyon juniper.

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Utah American Energy, Inc.

**Horse Canyon Extension
Lila Canyon Mine - Part "B"**

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TABLE 3-1

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Rocky Mountain Big Horn Sheep appear to have a low tolerance for disturbance. Considering the

mitigation information).

Although it was predicted that these nests might be abandoned, the Operator will coordinate closely with USFWS, DWR, and the Division to avoid "take" of golden eagles prior to construction and during operations. Immediately following any raptor survey that shows that the eagles are tending nests or nesting, the operator will contact the USFWS and DOGM. The agencies will immediately coordinate to determine appropriate measures.

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- 1) Escarpment Failure which is not anticipated.
- 2) Disruption of Surface and / or Ground Water, which is not anticipated.

- (1) Escarpments will be protected by implementing escarpment barriers. An escarpment barrier of a minimum of 200', within which no second mining will take place, will be used to protect all escarpments.
- (2) Disturbance of Surface and / or Ground Water. Considering, the permit area has no surface water with the exception of

lesson disturbance.

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